IN THE CLAIMS

The claims pending in the application are reproduced below for the convenience of the Examiner.

1. (original) A method for cropping an asymmetrical digital image, the method comprising the step of:

identifying a projection of a radiation beam in an image plane, the projection being asymmetrical with respect to an axis of the image plane; and

processing image data for a portion of a digital detector based upon the identified projection.

2. (original) The method of claim 1, wherein the step of identifying the projection includes sensing orientation of a radiation source and computing locations of incidence of the radiation beam in the image plane.

3. (original) The method of claim 1, wherein the step of identifying the projection includes sensing orientation of a collimator and computing locations of incidence of the radiation beam in the image plane.

4. (original) The method of claim 1, wherein the projection is identified based upon spatial location of a collimator aperture and on a transformation matrix for a radiation source.

5. (original) The method of claim 1, wherein the projection is identified based upon spatial location of a collimator aperture and on a transformation matrix for the collimator.

6. (original) The method of claim 1, wherein processing the image data includes sampling image data from the detector only from an area encompassing the projection.

7. (original) The method of claim 1, wherein processing the image data includes storing only image data from an area encompassing the projection.

8. (original) The method of claim 1, comprising the further step of determining whether the projection is encompassed within bounds of the detector.

9. (original) The method of claim 8, comprising the further step of generating an operator alert if the projection is not encompassed within bounds of the detector.

10. (original) The method of claim 1, wherein the radiation beam may be angularly oriented and rotationally shaped with respect to the image plane, and wherein the projection is identified based upon angular orientation and rotational shaping with respect to an orthogonal orientation.

11. (original) A method for cropping data in a digital x-ray imaging system, the method comprising the steps of:

orienting a radiation beam to project the beam towards an image plane to impinge the plane asymmetrically with respect to an axis of the plane and to impinge a region of a detector extending in the image plane, the region being smaller than an imaging surface of the detector;

computing an image area over which the beam impinges the plane; and

processing image data from the region of the detector including the image area.

12. (original) The method of claim 11, wherein the radiation beam is oriented by angular positioning of a radiation source.

13. (original) The method of claim 11, wherein the radiation beam is oriented by rotational positioning of a radiation source.

14. (original) The method of claim 11, wherein the radiation beam is oriented by angular positioning of a collimator.

15. (original) The method of claim 11, wherein the radiation beam is oriented by rotational positioning of a collimator.

16. (original) The method of claim 11, wherein the image area is computed by determining projections of portions of the beam based upon orientation of the beam.

17. (original) The method of claim 11, comprising the step of determining whether the image area is encompassed by the imaging surface of the detector.

18. (original) The method of claim 17, comprising the step of generating an operator alert if the image area is not encompassed by the imaging surface of the detector.

19. (original) The method of claim 11, wherein only image data for the region is sampled form the detector.

20. (original) The method of claim 11, wherein the region includes portion of an image matrix of rows and columns of pixels, the portion of the image matrix fully encompassing the image area.

21. (original) A method for processing image data in a digital x-ray imaging system, the method comprising the steps of:

orienting a radiation beam producing assembly to project an x-ray beam towards an image plane to impinge the plane asymmetrically with respect to an axis of the plane and to

impinge a region of a detector extending in the image plane, the region being smaller than an imaging surface of the detector;

sensing orientation of the radiation beam producing assembly;

computing an image area over which the beam impinges the plane;

generating the x-ray beam; and

processing image data from the region of the detector including the image area.

22. (original) The method of claim 21, wherein the radiation beam producing assembly includes a radiation source and a collimator.

23. (original) The method of claim 22, wherein the radiation source and the collimator are configured to allow freedom of orientation with respect to one another.

24. (original) The method of claim 23, wherein the orientations of the radiation source and the collimator are separately sensed in accordance with respective coordinate systems.

25. (original) The method of claim 24, wherein the image area is computed based upon transformation matrices for the coordinate systems.

26. (original) The method of claim 21, wherein the image area is computed based upon projection of the beam through an aperture in a collimator.

27. (original) The method of claim 21, comprising the further step of determining whether the image area is encompassed by the imaging surface of the detector.

28. (original) The method of claim 27, comprising the step of generating an operator alert if the image area is not encompassed by the imaging surface of the detector.

29. (original) The method of claim 27, comprising the step of inhibiting generation of the x-ray beam if the image area is not encompassed by the imaging surface of the detector.

30. (original) A digital x-ray system comprising:

a radiation source assembly orientable with respect to an imaging plane to produce an asymmetrical image area;

a digital detector extending in the imaging plane and having an imaging surface larger than the image area; and

a control circuit configured to compute the image area based upon orientation of the radiation source assembly and to process image data from the detector for the image area to the exclusion of data from portions of the imaging surface outside the image area.

31. (original) The system of claim 30, wherein the radiation source assembly includes an x-ray source and a collimator.

32. (original) The system of claim 31, wherein the radiation source and the collimator are orientable with respect to one another.

33. (original) The system of claim 31, wherein the control circuit is configured to compute the image area based upon projection of an x-ray beam through an aperture in a collimator.

34. (original) The system of claim 31, wherein the control circuit is further configured to determine whether the image area is encompassed by the imaging surface.

35. (original) The system of claim 34, wherein the control circuit is further configured to generate an operator alert if the image area is not encompassed by the imaging surface.

36. (original) The system of claim 34, wherein the control circuit is further configured to inhibit initiation of an x-ray exposure if the image area is not encompasses by the imaging surface.